

1. (*Amended*) A tape carrier package semiconductor device, which includes a tape carrier and semiconductor elements that have been packaged on the tape carrier, said tape carrier package semiconductor device comprising:

an insulating tape,

a metal wiring pattern installed on one surface of the insulating tape, the metal wiring pattern being provided on a metal-wiring-pattern side of the insulating tape,

a through hole that is provided in a manner so as to penetrate the insulating tape so

that the insulating tape is allowed to bend,

on the metal-wiring-pattern side of the insulating tape, only a first insulating protective film for insulating and covering the metal wiring pattern and the through hole at locations over and proximate the through hole, so that no other insulating film is located on the metal-wiring-pattern side of the insulating tape proximate the through hole,

on a side of the insulating tape opposite the metal-wiring-pattern side, a second insulating protective film for insulating and covering the through hole, and

resin sealing peripheral portions where the metal wiring pattern and a semiconductor element are connected;

wherein the first and second insulating protective films comprise solder resist whose young's modulus is in the range of 5 kgf/mm² to 70 kgf/mm², and wherein on the metal-wiring-pattern side of the insulating tape no insulating protective film other than said first insulating protective film covers the metal wiring pattern proximate the through

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hole, and wherein the solder resist of the first insulating protective film includes a filler in the range of 10 wt% to 40 wt% that determines viscosity thereof.

5. (*Unamended*) The tape carrier package semiconductor device as defined in claim 1, wherein the periphery of portions at which the tape carrier and the semiconductor elements have been electrically connected is covered with liquid resin having an insulating property in a manner so as to allow the edge of the liquid resin to make an angle of not more than 70° with the upper surface of the first insulating protective film.

10. (*Unamended*) A liquid crystal panel display, which is provided with a liquid crystal panel and a tape carrier package semiconductor device having a tape carrier and semiconductor elements that have been packaged on the tape carrier so as to drive the liquid crystal panel, wherein said tape carrier comprises:

an insulating tape,

a metal wiring pattern installed on one surface of the insulating tape, the metal wiring pattern being provided on a metal-wiring-pattern side of the insulating tape,

a through hole that is provided in a manner so as to penetrate the insulating tape so that the insulating tape is allowed to bend,

on the metal-wiring-pattern side of the insulating tape, only a first insulating protective film for insulating and covering the metal wiring pattern and the through hole at locations over and proximate the through hole,

on a side of the insulating tape opposite the metal-wiring-pattern side, a second insulating protective film for insulating and covering the through hole, and

resin for sealing periphery portions at which the semiconductor device and the metal wiring pattern are connected,

wherein the first and second insulating protective films are made of solder resist whose young's modulus is in the range of 5 kgf/mm² to 70 kgf/mm², and wherein on the metal-wiring-pattern side of the insulating tape only the first insulating protective film insulates and covers the metal wiring pattern proximate the through hole, and the solder resist of the first insulating protective film includes a filler in the range of 10 wt% to 40 wt% that determines viscosity thereof.

23. (*Unamended*) A tape carrier package semiconductor device comprising:

an insulating tape,

a metal wiring pattern on one surface of the insulating tape, the metal wiring pattern being provided on a metal-wiring-pattern side of the insulating tape

a through hole provided in a manner so as to penetrate the insulating tape so that the insulating tape is allowed to bend,

on the metal-wiring-pattern side of the insulating tape, only a first insulating solder resist protective film for insulating and covering the metal wiring pattern and the through hole, and

on a side of the insulating tape opposite the metal-wiring-pattern side, a second insulating solder resist protective film for insulating and covering the through hole,

wherein the first and second insulating solder resist protective films are made of solder resist whose young's modulus is in the range of 5 kgf/mm² to 70 kgf/mm², and on the metal-wiring-pattern side of the insulating tape no insulating solder resist other than said first insulating solder resist protective film covers the metal wiring pattern near the through hole, and

wherein the solder resist of the first protective film includes a filler in the range of 10 wt% to 40 wt% that determines viscosity thereof.

24. (*Unamended*) A tape carrier package semiconductor device, which has a tape carrier and semiconductor elements that have been packaged on the tape carrier, characterized in that said tape carrier comprises:

an insulating tape,

a metal wiring pattern installed on one surface of the insulating tape,

a through hole that is provided in a manner so as to penetrate the insulating tape so that the insulating tape is allowed to bend,

a first insulating protective film for insulating and covering the metal wiring pattern and the through hole on a metal-wiring-pattern side of the tape,

a second insulating protective film for insulating and covering the through hole on the side opposite to the metal-wiring-pattern side,

wherein the first and second insulating protective films are made of solder resist whose young's modulus is in the range of 5 kgf/mm² to 70 kgf/mm², and

wherein the solder resist of the first insulating protective film contains a filler that determines the viscosity thereof in the range of 10 wt% to 40 wt%.

25. (*Unamended*) A liquid crystal panel display, which is provided with a liquid crystal panel and a tape carrier package semiconductor device having a tape carrier and semiconductor elements that have been packaged on the tape carrier so as to drive the liquid crystal panel, characterized in that said tape carrier comprises:

an insulating tape,

a metal wiring pattern installed on one surface of the insulating tape,

a through hole that is provided in a manner so as to penetrate the insulating tape so that the insulating tape is allowed to bend,

a first insulating protective film for insulating and covering the metal wiring pattern and the through hole on a metal-wiring-pattern side of the tape,

a second insulating protective film for insulating and covering the through hole on the side opposite to the metal-wiring-pattern side,

wherein the first and second insulating protective films are made of solder resist whose young's modulus is in the range of 5 kgf/mm² to 70 kgf/mm², and

wherein the solder resist of the first insulating protective film contains a filler that determines the viscosity thereof in the range of 10 wt% to 40 wt%.

26. (*Unamended*) A tape carrier package semiconductor device, which has a tape carrier and semiconductor elements that have been packaged on the tape carrier, characterized in that said tape carrier comprises:

an insulating tape,

a metal wiring pattern installed on one surface of the insulating tape,

a through hole that is provided in a manner so as to penetrate the insulating tape so that the insulating tape is allowed to bend,

a first insulating protective film for insulating and covering the metal wiring pattern and the through hole on a metal-wiring-pattern side of the tape,

a second insulating protective film for insulating and covering the through hole on the side opposite to the metal-wiring-pattern side,

wherein the first and second insulating protective films are made of solder resist whose young's modulus is in the range of 5 kgf/mm² to 70 kgf/mm², and

wherein the first insulating protective film is made of solder resist of one kind, and the solder resist contains a filler which determines viscosity thereof in a range of 10 wt% to 40 wt%.

27. (*Unamended*) A liquid crystal panel display, which is provided with a liquid crystal panel and a tape carrier package semiconductor device having a tape carrier and semiconductor elements that have been packaged on the tape carrier so as to drive the liquid crystal panel, characterized in that said tape carrier comprises:

an insulating tape,

a metal wiring pattern installed on one surface of the insulating tape,

a through hole that is provided in a manner so as to penetrate the insulating tape so that the insulating tape is allowed to bend,

a first insulating protective film for insulating and covering the metal wiring pattern and the through hole on a metal-wiring-pattern side of the tape,

a second insulating protective film for insulating and covering the through hole on the side opposite to the metal-wiring-pattern side,

wherein the first and second insulating protective films are made of solder resist whose young's modulus is in the range of 5 kgf/mm² to 70 kgf/mm², and

wherein the first insulating protective film is made of only one kind of solder resist and contains a filler that determines viscosity thereof in the range of 10 wt% to 40 wt%.

REMARKS

This is in response to the Office Action dated April 24, 2002. Claims 8 and 17 have been canceled. Thus, claims 1, 2, 4-7, 9-11, 13-16, 18-19 and 23-27 are pending. It is noted that since no appeal was filed, the Amendment After Final dated July 23, 2002